

KR 10-2003-35993

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THE CLAIMS

What is Claimed is:

- 5 1. A surface expression vector comprising any one or two or more of pgsB, pgsC and pgsA genes encoding poly-gamma-glutamic acid synthase complex and a gene encoding a spike antigen protein or a nucleocapsid antigen protein of SARS coronavirus.
- 10 2. The surface expression vector according to claim 1, wherein the spike antigen protein is SARS SA, SARS SB, SARS SC or SARS SD.
3. The surface expression vector according to claim 1, wherein the nucleocapsid antigen protein is SARS NA or SARS NB.
- 15 4. The surface expression vector according to claim 2, wherein the vector is pHCE2LB:pgsA-SARS SA or pHCE2LB:pgsA-SARS SC.
5. The surface expression vector according to claim 3, wherein the vector is
- 20 pHCE2LB:pgsA-SARS NB.
6. A microorganism transformed by the expression vector of any one claim among claims 1 to 5.
- 25 7. The microorganism according to claim 6, wherein the microorganism is selected from the group consisting of *E. coli*, *Salmonella typhi*, *Salmonella typhimurium*, *Vibrio cholerae*, *Mycobacterium bovis*, *Shigella*, *Bacillus*, *Lactobacillus*, *Lactococcus*, *Staphylococcus*, *Listeria monocytogenes*, *Streptococcus*.
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8. A method for producing a spike antigen protein or a nucleocapsid antigen protein of SARS coronavirus comprising culturing the microorganism of claim 6.
9. A vaccine for prevention of SARS virus comprising the spike antigen protein
5 or the nucleocapsid antigen protein produced by the method of claim 8, as an effective ingredient.
10. The vaccine according to claim 9, wherein the antigen protein is an expressed form on the surface of microorganism, a crudely extracted form or a
10 purified form.
11. The vaccine according to claim 9, wherein the vaccine can be taken by oral administration or in food.
- 15 12. The vaccine according to claim 9, wherein the vaccine is for subcutaneous or intra-peritoneal injection.
13. The vaccine according to claim 9, wherein the vaccine is for intranasal
20 administration.
14. The method according to claim 8, wherein the microorganism is lactic acid bacterium.
15. A lactic acid bacterium, which is produced by the method of claim 14, and
25 the spike antigen protein or the nucleocapsid antigen protein of SARS coronavirus is expressed on the surface.
16. A vaccine for prevention of SARS comprising the lactic acid bacterium of claim 15, an antigen protein extracted from said lactic acid bacterium, or an

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Sir:

In response to the Office Action mailed December 11, 2007, please enter this Amendment and Response into the file of the above-identified application.

The time for responding to the December 11, 2007 Office Action without extension was set at three months, or March 11, 2008. Applicants hereby request a one (1) month extension of time under 37 CFR § 1.136 to extend the deadline for response to April 11, 2008. This response is therefore timely.

Please amend the claims of the above-identified patent application as set out in **Section I, Amendments to the Claims**, beginning on page 3 hereof.

Reconsideration of the application in view of the amendments to the specification and claims, and the ensuing remarks set out in **Section II, Remarks**, beginning on page 5 hereof, is respectfully requested.

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